

SOME NEMATODES FROM FISH FROM HERON ISLAND, QUEENSLAND

by PATRICIA M. MAWSON*

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SUMMARY

An unusual larva of *Thynnascaris* sp. is described from *Chaetodon* sp. and *Cattydon* sp.; *Procamallanus* sp. is described from *Siganus nebulosus*, and *Metabronema magna* (Taylor) from the swim bladder of *Caranx speciosus*; some variations from the type are recorded in this last species.

This small collection of nematodes was made at Heron Island, off the Queensland coast, by my colleague, Mr. S. J. Edmonds, while on an excursion with the Zoology Department of the University of Queensland. I am most grateful to him for the opportunity of examining these worms.

Metabronema magna (Taylor)

(Figs 1-3)

Metabronema magna is now recorded from the golden trevally, *Caranx speciosus*. The species is apparently common in the swim bladder of these fish, of which a large number were examined by Mr. Edmonds. About six worms was the usual number present in each fish. The description agrees generally with that given by Taylor (1925, pp. 60-66) and although there are slight variations it seems certain that the same species is present.

The longest female is 100 mm., the longest male 35 mm. The shortest female, about 15 mm. long and without eggs, is in copula with a male of about 30 mm.

Taylor describes broken longitudinal striations on the cuticle of the female. In those from the trevally, the cuticle anterior to the vulva is transversely striated, and posterior to it the longitudinally elongated bosses appear; in older females these are further ornamented with smaller ridges, almost resembling fingerprints. The wide lateral alae commence at the level of the base of the oesophagus and continue past the anus; for most of their length they bear oblique as well as transverse striae.

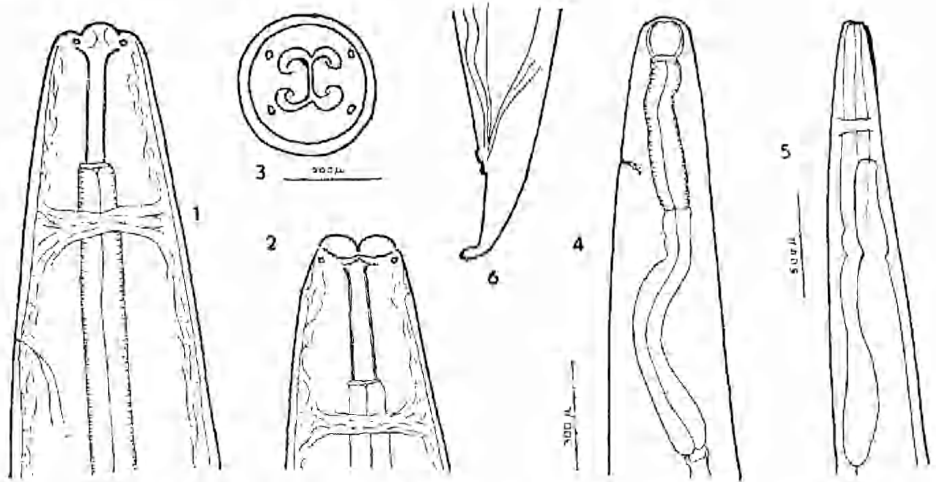
In en face view only the two pairs of sublateral papillae described by Taylor were seen; in dorsal (and ventral) view, a very small lateral papilla can be seen on each side, with a minute amphidial opening anterior to it (Fig. 2).

The vestibule is rather shorter than the type, especially in the male; it is 440 μ by 60 μ in the female, 290 μ by 40 μ in the male. The cervical papillae, nerve ring, and excretory pore are as described by Taylor, lying, in a young female in which the vestibule is 400 μ long, 160 μ , 510 μ , and 850 μ , respectively, from the anterior end of the worm.

The tail of a large female specimen is 460 μ long, very different from the 100-210 μ given by Taylor. The vulva is marked by well-developed muscular lips as described by Taylor; these lie lateral to one another, with a deep S-shaped groove between them. The eggs are 39-41 μ by 20-22 μ , and contain each a coiled larva.

* University of Adelaide.

In the male the shape of the spicules is exactly as described by Taylor; the length of the longer is 1.6-1.7 mm., and of the shorter 0.5-0.6 mm. (1.7-1.8 mm. and 0.39-0.45 mm. in the original description). In the copulating male it is the shorter spicule which has entered the female. No gubernaculum was seen, although it was described in the type. The male tail is 500 μ long (270-310 μ in type). The number and arrangement of the caudal papillae is similar in both collections.



Figs. 1-3.—*Metabronema magna*, lateral, dorsal and en face views of head; Fig. 4.—*Procamallanus* sp. anterior end. Figs. 5-6.—*Thynnascaris* sp., 5, anterior end; 6, tail of male larva. Figs. 1, 2, 3, 4 and 6 all to same scale.

Procamallanus sp.

(Fig. 4)

Several female worms belonging to the genus *Procamallanus* were taken from the black-spined bream, *Siganum nebulosus*. The species is close to *P. sphaeroconchus* Törnquist in which the tip of the tail is, however, bifid and in which the buccal capsule is more elongate, and to *P. sigani* Yamaguti. The vulva is further forward in the Australian species than in either of these. In the absence of males no specific determination has been made.

The worms are up to 19 mm. long. The buccal capsule is nearly as wide as long, without spiral thickenings or other ornamentation, the base 120 μ from the anterior end, and the equatorial diameter 110 μ , including the 15 μ thick walls. The anterior muscular part of the oesophagus is 430 μ long, the posterior part 750 μ . The excretory pore is 400 μ from the anterior end. The tail is 280 μ long, conical, and directed dorsad, and it ends in a simple rounded tip.

The region around the vulva is strongly chitinised, but does not project noticeably; it lies at about the end of the first third of the body length, 5.3 mm. from the head in a specimen 15.3 mm. long. No shelled eggs were seen; the uteri contain a coiled slender-tailed larva, about 450 μ long.

Thynnascaris sp.

(Figs. 5-6)

Larval worms, all of which appear very similar, were taken from the tusk fish, *Chaetodon* sp., and from *Cattydon* sp. They are ascarids, with three low lips, short oesophagus, with small ventriculus, and long appendix and short intestinal caecum. The tail is conical with short digitiform tip without spines. They

have been assigned to the genus *Thynnascaris* because of the presence of a ventriculus. A gonad is present as a well-developed tube in two specimens, and in one of them is obviously a testis, leading back to the anus; in this specimen there is structure lying dorsal to both reproductive duct and rectum, which is presumably the anlage of the spicules (Fig. 8). The worms were recorded as from the intestine, but might have been on the outer wall; with them is the larval stage of a Trypanorhynch cestode. The nematodes are enclosed in a loose outer sheath within which are dark granular masses. It is presumably a 3rd stage larva, as 4th stage in this group show distinct lips and interlabia and a spinous tail.

The developmental stages of *Contracaecum* spp. and *Thynnascaris* spp. larvae in the 2nd intermediate host, and their enclosure in a cyst containing much granular matter, has been described by Johnston and Mawson (1945, p. 126).

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